AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning on page 2, line 1, and continuing to page 2, line 16, as follows:

Micromachined filters in which the cavities are attached to a metallic layer and the "cap" of the filter having slot connection made through conventional circuit board manufacturing technique ~~is~~ are described in "A high performance K–Band diplexer using high-Q micromachined cavities", Michael J. Hill et al, department of Electrical and Computer Engineering, University of Arizona, Tucson, AZ 85721-0104. According to this paper, which is directed at microwave diplexers two high Q cavity resonators, a Duroid-based high performance diplexer has been designed, fabricated and measured. This diplexer shows transmit/receive bandwidths of 2.39% and 1.8% and insertion losses of 2.38dB and 2.89dB, respectively. Channel centre frequencies of 18.8GHz and 20.7GHz provide a channel separation of approximately 9% and channel-to-channel isolation greater than 24dB. Utilizing machined aluminium cavities and a Duroid substrate the diplexer design provides insight into cavity based diplexer construction, allowing for the design of a silicon based micromachined cavity diplexer. Simulation results from this silicon-based diplexer are also presented. One disadvantage with machined filters in Duroid-based technique is not being suitable for low cost batch production. In addition large tolerances do not allow fabrication of filters with desired performances.

Please amend the caption on page 2, line 26, as follows:

BRIEF SUMMARY ~~OF THE INVENTION~~

Please amend the paragraph beginning on page 2, line 28, and continuing to page 2, line 31, as follows:

The main object of the present invention is to provide a microwave or millimetre wave element, such as a wave guide, resonator, filter, diplexer or the like having a substrate made through removal of material by immersing the wafer in a liquid bath of the chemical etchant or wet etching, which is a ~~much~~ more cost effective process than dry etching.

Please amend the paragraph beginning on page 3, line 1, and continuing to page 3, line 13, as follows:

Thus, the ~~invention~~ technology presents a method for fabricating a cavity on a substrate for a component for electromagnetic waves. The method comprises providing said cavity by removal of material from said substrate by removal of material by immersing the substrate in a liquid bath of a chemical etchant, so that resultant cavity has a top and a bottom side and sidewalls, and said cavity at one of said top and/or bottom sides exhibits an at least a four sided opening having at least two different adjacent angles. According to one embodiment, the component further comprises a conductive layer arranged as a ground plane covering said substrate, said ground plane being provided with at least one coupling slot and at least one conductor. The ground plane is connected to a component element, which is inserted into said cavity in said substrate. Preferably, the substrate is made of [110] silicon. The component is one of a filter, diplexer, resonators or matching networks. Preferably, the substrate is etched from both sides.

Please amend the paragraph beginning on page 3, line 15, and continuing to page 3, line 31, as follows:

The ~~invention~~ technology also relates to a component for electromagnetic waves. The component comprises a substrate provided with a cavity being produced by removal of material from said substrate by immersing the substrate in a liquid bath of a chemical etchant. The cavity has a top and a bottom side and sidewalls and at one of said top and/or bottom sides exhibits an at least a four sided opening having at least two different adjacent angles. The component further comprises a conductive layer arranged as a ground plane covering said substrate. The ground plane is provided with at least one coupling slot and at least one conductor. The ground plane is connected to a component element, which is inserted into said cavity in the substrate. Most preferably, the substrate is made of [110] silicon. The component is one of a filter, diplexer, resonators or matching networks. The conductive plane is made of a metallic layer. According to one aspect of the invention, the cavity is arranged in a resonator arrangement with coplanar waveguide (CPW) couplings, comprising said substrate with micromachined through cavity with electroplated surface. Preferably, the cavity is made through preferential etching from the both sides of the substrate, having said sidewalls perpendicular to the surfaces of the cavity. In one embodiment the substrate is enclosed within a housing of dielectric material. The cavity has a length, said length $n\lambda$, where $n = 1, 2, \ldots$, wherein λ is the wavelength.

Please amend the paragraph beginning on page 4, line 8, and continuing to page 4, line 9, as follows:

Fig. 1a schematically illustrates a top view of a substrate fabricated according to ~~the invention~~an exampe embodiment,

Please amend the paragraph beginning on page 4, line 11, and continuing to page 4, line 12, as follows:

Fig. 2 schematically illustrates a top view of a substrate fabricated according to ~~the invention~~an example embodiment,

Please amend the paragraph beginning on page 4, line 15, and continuing to page 4, line 16, as follows:

Fig. 5a is a cross-section through a cavity resonator arrangement according to ~~the invention~~an example embodiment,

Please amend the paragraph beginning on page 4, line 17, and continuing to page 4, line 18, as follows:

Fig. 5b is a cross-section through a cavity resonator arrangement according to another ~~aspect of the invention~~example embodiment,

Please amend the paragraph beginning on page 4, line 24, and continuing to page 4, line 25, as follows:

Figs. 8-10 illustrate exemplary coupling-network orientations for cavity resonator arrangements according to ~~the invention~~example embodiments.

Please amend the paragraph beginning on page 4, line 29, and continuing to page 5, line 2, as follows:

~~According to the invention, a~~A microwave filter or similar component is formed in cavities, which are adapted to the geometries that are shaped through wet an-isotropic (preferential) etching of silicon wafers. The filter is buried inside a substrate, parts of which constitute the walls of the filter. Fig. 1a illustrates a top view of the result of the wet etching in a silicon wafer 10. The cavity 11 does not exhibit a rectangular shape, rather an elongated rhombic shape (with no more than two sides having equal length), the corners of which can have the approximated angels of $\alpha \approx 70°$ and $\beta \approx 109°$. As illustrated in Fig. 1b, also the corners of the cavity 11 are inclined and exhibit angles $\sigma \approx 125°$ and $\varphi \approx 125°$. For [110] orientation of silicon and angles of cavity in horizontal plane, the speed of the etching process is much faster and the cavities with walls normal to the wafer are formed. The etching is conducted from the horizontal plane (with respect to the plane of the drawing) using preferential etching orientation.

Please amend the paragraph beginning on page 5, line 4, and continuing to page 5, line 15, as follows:

Fig. 2 is a top view of a filter arrangement 20 according to ~~the invention~~an example embodiment and Fig. 3 is a cross-sectional view along line II-II. The filter is disclosed as an exemplary component and the method ~~of the invention~~ can be used to manufacture other similar components. The dashed line 21 illustrates the buried filter boundary in a cavity. The cavity is substantially ~~rhomb-~~shaped as an elongated rhombus, i.e. a ~~square~~ quadrilateral in which the two adjacent corners *a* and *b*, seen from above, have different angles. Thus, as shown in Fig. 2, the cavity comprises an opening on at least one side of said substrate. The opening comprises at least four sides, two of the sides having an equal length, the equal length differing from lengths of remaining sides.

In other words, no more than two sides of the cavity have equal length. The opening also has at least two different adjacent angles. The cap 22 comprises a metallic material layer or conductive plane constituting a ground plane. Two coupling microstrips, 23 and 24 extend over coupling slots 26 and 27, respectively. One microstrip and coupling slot combination, e.g. 23 and 26, acts as an input and the other microstrip and coupling slot combination, e.g. 24 and 27, acts as an output. The length of the input and output coupling strips 23, 24 over the cavity is at least λ/4 over the cavity, wherein λ is the wavelength of the microwave. As can be seen in Fig. 2, the microstrips are arranged above a dielectric layer 28.

Please amend the paragraph beginning on page 5, line 17, and continuing to page 5, line 22, as follows:

The substrate 30, as illustrated in Figs. 2 and 3, is provided with a cavity 31, into which the filter is lowered. Due to the effects of the wet etching process, also the walls 32 of the cavity exhibit inclination, an angle of which can be as much as 60 degrees. However, this will not affect the performance of the filter. The cavities constituting filter chambers 20 can be inter-connected through passages 33, as shown in the perspective view of Fig. 4. Also, the ~~angels~~ angles ρ and ξ between the walls ~~nay~~ may be non-perpendicular, e.g., ρ = 109° and ξ = 70°.

Please amend the paragraph beginning on page 6, line 1, and continuing to page 6, line 10, as follows:

The ~~Above~~ above example relates to a multichip module. It is also possible to provide a cavity etched through the substrate. Figs. 5a, 6a and 6b illustrate a cavity resonator arrangement 50 with coplanar waveguide (CPW) couplings, comprising a substrate 501 ~~with~~ micromachined through cavity 51 with electroplated surface 59. Fig.

6a is an exploded view in perspective and Fig. 6b illustrates the assembled resonator arrangement 50. The substrate 501 consists of silicon and the conductive layer 59 may ~~consists~~ consist of copper (CU), silver (Ag) or any other suitable conductive material. The cavity is made through preferential etching from the both sides of the substrate. In this case the walls of the cavity are perpendicular to the surfaces of the cavity. The substrate is enclosed within a housing 502 of dielectric material. The microstrips 53 and 54 are arranged on the top layer or the cap 52.

Please amend the paragraph beginning on page 7, line 1, and continuing to page 7, line 3, as follows:

In Fig. 8, the cavity is ~~rhombus~~ shaped ~~while~~as a parallelpiped, the end section of the strips are angularly arranged relative the cavity edges. In Fig. 9, the end sections of the strips follow the cavity edges, i.e. they have same angle as the cavity edges.